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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,668	09/28/2001	Bernd Eckardt	32325-174523	5120

7590 07/12/2004

Venable Baetjer Howard & Civiletti
PO Box 34385
Washington, DC 20043-9998

EXAMINER

LANGEL, WAYNE A

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT

PAPER NUMBER

DATE MAILED:

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 5-26-04 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 16-35 are pending in the application.

Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☒ Claims 16-35 are rejected.

5. ☐ Claims _____ are objected to.

6. ☐ Claims _____ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

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Claims 16-35 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not enable one to use the invention, since there is no indication in the specification as to what material the "retarding layer" would be. The specification discloses in paragraph [17] that the retarding layer may be designed to be porous and consist of a bulk material. However there is no disclosure or guidance as to what the chemical composition of such bulk material would be. In order for a disclosure to be enabling, the disclosure must direct one of ordinary skill in the art how to use the invention, and not merely direct one to find out how to use for himself.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. § 103(a) which

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forms the basis for all obviousness rejections set forth in this

Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 16 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Smith et al. (newly cited). No distinction is seen between the apparatus disclosed by Smith et al., and that recited in claim 16 20. Smith et al. disclose an apparatus for conducting a redox reaction, wherein a fixed bed of stationary solid catalyst particles are positioned within a reaction chamber as a packing therein for catalyzing the reaction, the solid catalyst particles having surface portions in contact with a hydrophobic substance consisting of polytetrafluoroethylene resin without being completely encapsulated by or encapsulating the hydrophobic material. (See column 40, lines 11-63.) A portion of the catalyst particles in the apparatus of Smith et al. is considered to constitute a "first catalyst body positioned within said housing to receive said gaseous mixture", and a second portion of such catalyst particles is considered to constitute "a second

catalyst body positioned in the flow direction after said first catalyst body". The polytetrafluoroethylene resin is considered to constitute a "retarding layer surrounding said first catalyst body, said retarding layer inhibiting diffusion of the reaction gases". Moreover, the reaction gases would have direct access to the second catalyst body at those portions of the catalyst which are not covered with the polytetrafluoroethylene resin in the apparatus of Smith et al.

Claims 28-35 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Smith et al. Smith et al. is relied upon as discussed hereinbefore. Smith et al. teach at column 35, line 61 that the method may be employed for the recombination of hydrogen and oxygen gas. No distinction is seen between such process of Smith et al., and that recited in claims 28-35, since a portion of the catalyst particles in the process of Smith et al. is considered to constitute a first subregion wherein the reaction gases are catalytically recombined on the first catalyst body, and a second portion of the catalyst particles of Smith et al. is considered to constitute a second subregion, wherein the reaction gases are catalytically recombined on the second catalyst body. The polytetrafluoroethylene coating on the particles of Smith et al. would inherently inhibit diffusion of gases and limit

catalytic recombination of gases to produce a gaseous mixture with a reaction concentration below the ignition concentration, and the second portion of catalyst particles in the process of Smith et al. would be directly accessible to the gaseous mixture at those portions of the catalyst particles which are not coated with the polytetrafluoroethylene. Regarding claim 29, there would inherently be a zone in the catalyst particles of Smith et al. wherein the hydrogen content of the gaseous mixture is reduced to less than 5% by volume. Regarding claims 30 and 31, the hydrogen and oxygen gas would inherently be guided "through the retarding layer" of Smith et al., the retarding layer being the layer of polytetrafluoroethylene. Regarding claims 32-34, the reaction temperature in the first subregion would inherently be more than the reaction temperature of the second subregion in the process of Smith et al., since the recombination of hydrogen and oxygen to produce water is an exothermic reaction wherein the reaction temperature would gradually increase. Regarding claim 35, the polytetrafluoroethylene coating of the catalyst particles of Smith et al. would prevent adsorption of water generated by the reaction gases to no less extent than would the Teflon coating as recited in claim 35.

Dietz is made of record for disclosing a catalyst body bearing a finely divided metal of the platinum group encased in a

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porous polytetrafluoroethylene shell, for use in facilitating the recombination of gases.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne A. Langel whose telephone number is (571) 272-1353. The examiner can normally be reached on Monday through Friday from 8 A.M. to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on (571) 272-1358. The fax phone number for this Group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or public PAIR. Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WAL:cdc

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July 8, 2004

Wayne A. Langel
WAYNE A. LANGEL
PRIMARY EXAMINER